Beetsma, Roel; Constandse, Mirja; Cordewener, Frank; Romp, Ward; Vos, Siert

Article

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The Dutch Pension System and the Financial Crisis

Roel Beetsma[1], Mirja Constandse[2], Frank Cordewener[2], Ward Romp[3] and Siert Vos[4]

Introduction

Around the world the sustainability of pension arrangements is under increasing pressure from population ageing. The recent economic and financial crisis, which has caused dramatic deteriorations in public deficits and public debt positions, has given an impulse to further reforms aimed at improving the sustainability of pension arrangements.

In this paper we focus on the consequences of the crisis for the Dutch funded occupational pensions, the so-called second pillar. The Dutch pension system differs rather substantially from many other systems in that a substantial part of total pension provision comes from occupational pension funds operating in the private sector. The significant pension savings that have accumulated in these funds in recent decades will help to overcome the burden that population ageing poses for non-funded pension systems. However, they also make the pension system vulnerable to the risks of a financial crisis, as recent experience has shown.

The following section starts with a brief overview of the Dutch pension system and is followed by a chronological description of the events affecting the system during the crisis. Then the reforms of the prudential framework and pension contracts are discussed, while the subsequent section discusses one of the most contentious issues in the debate: the choice of the appropriate rate to discount future pension benefits. We then discuss the macroeconomic effects of the impact of the crisis on the Dutch funded pillar. The subsequent section draws some lessons from the crisis; and the last section offers a few conclusions.

Overview of the Dutch pension system

The Dutch pension system consists of three pillars: a state sponsored pay-as-you-go (PAYG) first pillar, funded occupational pension provision in the second pillar and funded individual pension savings in the third pillar.

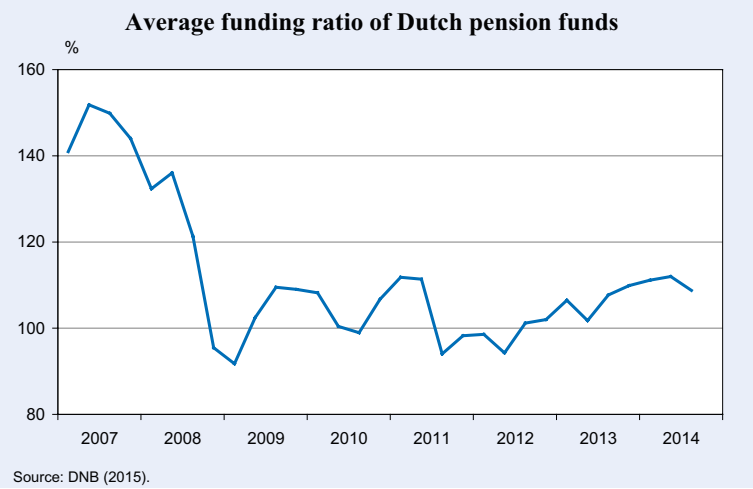
The state sponsored first pillar pension, called the "Algemene Ouderdomswet" (AOW), was instituted in 1957. Through the AOW, the Dutch government provides all inhabitants older than the legal pensionable age with a basic pension income. The benefit is flat, hence independent of an individual's wage history. Everybody living or working in the Netherlands automatically accumulates entitlements to the AOW pension at a rate of two percent per year (Rijksoverheid 2015). After 50 years of living in the Netherlands, residents are entitled to the full AOW pension. Since the AOW provides a basic pension income, the amount of AOW pension income is related to the legal Dutch minimum wage. Married or co-habiting persons receive 50 percent of the minimum wage, while single persons receive 70 percent of the minimum wage. Since the AOW is a PAYG system, current benefit payments to pensioners are mainly covered by current contributions made by the working population.[5]

The second pillar, the occupational pension, is organised at the level of the employer and is part of the terms of employment agreed upon by the social partners (representatives of employer and employee organisations). Over 90 percent of employees in the Netherlands participate in an occupational pension scheme (CBS 2012). Occupational pensions are funded collective arrangements that are run by a separate institution, either a pension fund – in EU

[1] MN Chair in Pension Economics, University of Amsterdam.
[2] MN (Dutch pension and insurance administration and asset management company) and AG (Royal Actuarial Association).
[3] University of Amsterdam.
[4] University of Amsterdam and MN.

[5] However, since the contributions by the working population are capped, parts of the benefits are paid out of general tax revenues. Since everybody, including pensioners, pays taxes, a limited part of AOW pensions is paid by pensioners themselves. Due to the cap and the increasing size of the retired population, the fraction paid out of general tax revenues will continue to rise in the future.

Figure 1



Source: DNB (2015).

terminology an "Institution for Occupational Retirement Provision" (IORP) – , an insurance company or a new type of pension provider termed a "Premium Pension Institution" (PPI). At the end of 2014 the total size of the second pillar was around 1,225 billion EUR, of which 1,060 billion EUR was accounted for by pension funds, 165 billion EUR by pension savings at insurance companies and 1.2 billion EUR by PPIs (DNB 2015). Pension savings are legally separated from the employer's business: there is no pension provision on the books of the employer.

Traditionally, occupational pension arrangements in the Netherlands were of the Defined Benefit (DB) type. Specifically, the benefit is expressed in terms of the number of EUR that a participant receives annually until his/her death. Hence, participants build up nominal entitlements that are usually indexed to nominal wage and price developments over the past year, while there is no hard guarantee of the value of the pension benefits in real terms. Indeed, the purchasing power of the benefit is subject to various risks: inflation risk (as indexation of the entitlements tends to be conditional to the financial health of the pension fund and may differ from the realized inflation rate), productivity risk (there may be full or partial indexation to nominal wage developments) and various types of market risk (depending on the investment portfolio of the pension fund).

Pension funds exist for different collective groups: industry-wide pension funds (for example the civil servants pension fund ABP, the health care pension fund PFZW, or the metal workers' pension funds PMT and PME), company pension funds (for example, the pension funds of Shell, ING and Unilever), and professional pension funds (pension funds for the free professions, such as the general practitioners' pension fund, the pension fund for medical specialists and the notary pension fund).

Third pillar pension provision is made on a voluntary, individual basis. This type of pension provision consists of life insurances, individual annuities or specifically labelled savings. Banks and insurance companies are the typical providers of third pillar pension products.[6] The largest part of the third pillar consists of life insurance products provided by insurance companies.

For both second and third pillar pension savings, the tax regime is "EET": the part of income that goes into pension savings is exempt from taxes and the returns generated by the pension savings are exempt from taxes, while the resulting pension benefit payments are taxed. Thus, all pension savings in the second and third pillar include a deferred tax claim by the Dutch government, which will be realized when the benefits are paid out. Given the total size of pension savings of over 1400 billion EUR (i.e. over 200 percent of GDP, which was 655 billion EUR in 2014 (CBS 2015)) of the second and third pillar together, this constitutes a very substantial tax claim on future pension income.

In the remainder of this paper, when discussing the second pillar, we will mainly discuss how pension funds were affected, as these constitute by far the largest part of the second pillar. Moreover, most of the changes induced or speeded up by the crisis occurred here.

How pension funds fared during the economic and financial crisis

At the onset of the crisis in 2007, Dutch pension funds were financially healthy. Financial health is measured by the funding ratio, defined as the market value of the fund's assets divided by the market value of the fund's

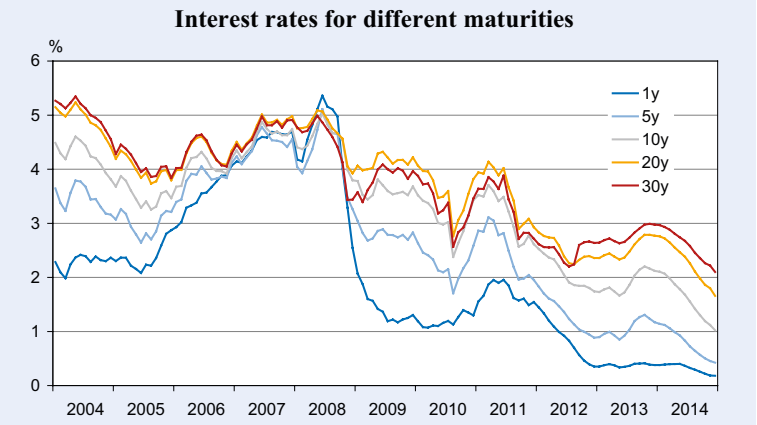
[6] The third pillar is defined less clearly than pillars one and two. In this paper, we use the narrow definition of the third pillar as defined in the text. One could also use a broader definition by stating that all (pension) savings that are not pillar 1 or 2 are by definition pillar 3 savings. We do not pursue this point in further detail here.

liabilities. The market value of the assets can be derived directly from the market prices of the assets. The market value of liabilities is determined by calculating the present value of the cash flows of the future pension benefit payments associated with pension accrual up to now. Before 2007, the rate at which projected future benefits were discounted was fixed (usually at four percent). However, from 2007 onwards, the prudential rules were adjusted implying that benefits had to be discounted against the risk-free term structure of interest rates (derived from the interbank swap-curve). In June 2007, the average funding ratio was over 150 percent. That is, for every one EUR of pension liabilities, there were 1.50 EUR in assets available.

Figure 1 depicts the average funding ratio since the beginning of 2007. During the second half of 2007 when the crisis was in its early stages, the financial markets lost some value, but this caused only a modest decline in the average funding ratio to around 145 percent. As 2008 progressed and financial markets plummeted in the aftermath of the demise of the American investment bank Bear Sterns and the run-up to the Lehman Brothers bankruptcy, funding ratios dropped further to around 120 percent by the end of quarter 3 of 2008. Risk-free interest rates were still around five percent for all maturities (see Figure 2), hence the fall in the average funding ratio had been driven entirely by losses on assets in the return portfolio. However, between October 2008 and February 2009, interest rates plummeted, possibly due to flight-to-safety effects, to levels below two percent for the 1–year maturity and to 3.3 percent on 30–year debt (also displayed in Figure 2). As a result, the average funding ratio experienced a strong decline to 91 percent at the end of the first quarter of 2009. Over the remainder of 2009 and until the first half of 2011 interest rates remained roughly stable, leading to a recovery in funding ratios partly due to the strong performance of risky assets in the return portfolio (see Figure 3 for equity returns on several indices for an overview of equity performance during the crisis).

The euro-area debt crisis also started to become a severe burden. The third quarter of 2011 saw a further drop in interest rates, causing the funding ratio to go down sharply too. In 2012 the actuarial tables were revised, implying an increase in life expectancy that had to be factored into the calculation of the liabilities. As a result, funding ratios came under further pressure. In the second quarter of 2013, there was a further persistent drop in interest rates, while at the end of 2013 a number of pension funds had to cut benefits. In spite of the strong performance of major asset markets and corresponding high asset returns on pension funds, funding ratios remain low because of the steady fall in interest rates.

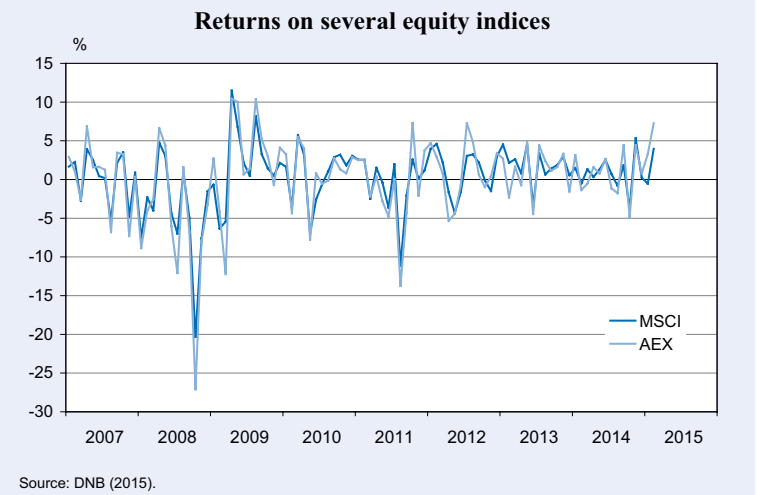
Figure 2



Note: Dutch interest rates as published by DNB, based on the interbank swap-curve.

Source: DNB (2015).

Figure 3

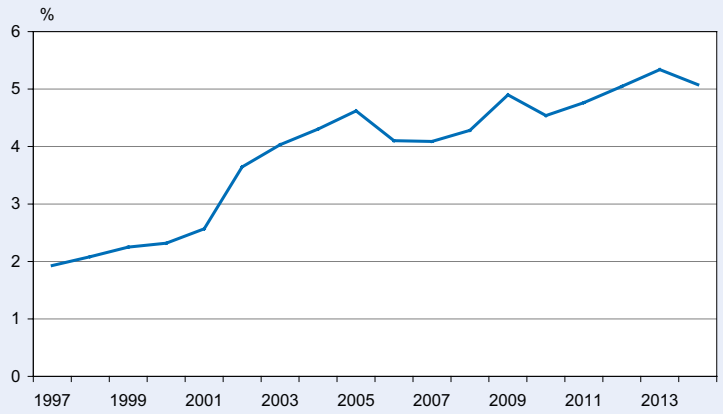


Source: DNB (2015).

Unlike some banks and insurance companies, Dutch pension funds weathered the crisis without support from the government. However, the consequence of the crisis was that pension funds had to take measures to improve their financial health. These measures included reducing or abolishing indexation to price inflation – so that pension entitlements could no longer keep up with increases in the price level – raising pension contributions and eventually writing off entitlements (as a measure of last resort).

Figure 4

Pension fund contributions as a percentage of GDP



Source: DNB (2015).

Figure 4 depicts total pension fund contributions as a percentage of Dutch GDP. These increased sharply after the previous crisis from 2.5 percent of GDP in 2001 to 4.5 percent of GDP in 2005. At the onset of the financial crisis in 2007, contributions as a percentage of GDP were slightly over four percent. In response to the crisis, they increased to over five percent of GDP in 2012 and close to 5.5 percent in 2013. These increases nevertheless did not prove great enough to restore the financial health of the pension funds. There are two reasons for this: The first is the increased costs of new pension accrual: the decrease in interest rates has increased the contributions necessary for a fixed accrual. Therefore, even if contributions are increasing strongly, only part of these contributions will contribute to an increase in the funding ratio. The second is the relatively small size of contribution payments as a share of the total amount of pension fund savings (in 2014 total pension fund contributions represented approximately three percent of total pension fund assets). Thus, the increase in the flow of pension contributions has not been high enough to fully restore the financial health of pension funds.

Reforms of the prudential framework and pension contracts in the second pillar

The new prudential framework (the so-called "financieel toetsingskader", FTK), with its market-based valuation of liabilities, was introduced in January 2007. An evaluation was planned after three years. The evaluation was conducted by two commissions, the Commission-Frijns, which dealt with asset management and governance, and the Commission-Goudswaard, which dealt with the prudential framework itself. Both commission reports (Frijns, Nijssen and Scholtens 2010 and Goudswaard, Beetsma, Nijman and Schnabel 2010), which were published in early 2010, made clear that the financial crisis had exposed some important structural problems in the design of the second pillar. In particular, the financial sustainability of the standard pension contract was called into question, and recommendations were made on how to deal with the consequences of ongoing population ageing. The commission reports were followed by a Pension Agreement between the social partners in June 2010. It contained high level agreements on raising both the first- and second-pillar statutory retirement age, on adjustments to second-pillar pension fund contracts and on supervision to make second-pillar pensions more stable. In June 2011, the social partners published a more detailed agreement which, in addition to increasing the statutory retirement age, envisaged a new type of pension contract, sometimes referred to as "Defined Ambition", in which accrued pension benefits are not guaranteed, but automatically adjusted on the basis of investment returns and changes in life expectancy.

Subsequently, in May 2012, the Dutch Ministry of Social Affairs published a Headline Note ("Hoofdlijnennotitie"), outlining plans to introduce both a Defined Ambition contract (the "real contract") and the supervisory framework to support this new contract in addition to the traditional DB plan (the "nominal contract"). Work on these plans continued until the end of 2013, when the Ministry announced, after a public consultation, that there would be only one type of pension contract and a single supervisory framework. The contract would be a middle-of-the-road solution between the nominal and real contracts that had been discussed until then. The associated legislation was finalized dur-

ing 2014 and was approved by the Parliament and Senate in December 2014. Hence, as of January 2015 the new pension framework has been in place.

The eventual framework introduces a number of changes compared with the previous framework. Firstly, maximum (tax-facilitated) pension accrual rates have been reduced, so that annual accrual is in line with the shift in the retirement age from 65 to 67. Secondly, supervision will be conducted on the basis of a "policy funding ratio", a moving average of the funding ratios over the past 12 months. Thirdly, the pension contract is made more complete by explicitly laying down indexation policy and the conditions under which entitlements can be cut in a financial crisis plan. Fourthly, indexation policy becomes more conservative in that indexation can only be given when the funding ratio exceeds 110 percent. The chosen indexation policy also has to be sustainable for the future. Fifthly, restoration to the long-run target of the funding ratio (which is determined by the capital requirements) needs to take place within a maximum of ten years (versus 15 years previously), while entitlements may be cut immediately if restoration through other measures cannot be expected. Restoration plans have become rolling, in the sense that they are updated each year with a window of ten years. Finally, in cases where the policy funding ratio has been below the minimum required level of 105 percent for five years, and this is also the case for the actual funding ratio, immediate restoration measures need to be taken. The framework has been adjusted to induce greater stability in the policies to be followed by the pension fund, to avoid major shifts in the value of the pension contract between generations and to enhance the system's sustainability with regard to rising longevity.

Discussions about and changes to the discount rate

During the reform process, discussions about the "correct" interest rate to be applied to discount the pension liabilities have been particularly fierce. The importance of the discount rate lies in the fact that it is an important determinant of the distribution of the value of the pension contract across participating cohorts. Given the value of the funds' assets, an increase in the discount rate shifts value from younger to older cohorts and vice versa. The discussion has been fuelled by the extremely low interest rates at the moment.

The discount rate that funds can apply to calculating their liabilities has been changed several times. In 2007, there was the switch from a fixed discount rate to discounting based on the risk-free term structure in the market. In December 2011, the discount rate was changed to the moving average over the past three months of the market term structure of risk-free interest rates. In September 2012, the Ultimate Forward Rate (UFR) was introduced in the discount curve.[7] The implementation chosen fixes the 1–year forward interest rate at 60 years ahead at a certain long-term equilibrium level, the UFR (the chosen value of the UFR is currently 4.2 percent). The forward rates for the range of 20 to 60 years ahead are constructed as a weighted average of the market interest rate and the UFR with decreasing weight on the market interest rate as one gets closer to 60 years. From these adjusted forward rates, an adjusted spot curve of interest rates can be constructed, which is used for discounting liabilities. The introduction of the UFR has been beneficial in terms of the funding ratios, while using a three-month moving average of the term structure for discounting has increased funding ratios during some periods and decreased them during others, depending on the trend in interest rates in the last three months. Finally, in January 2015 the three-month averaging effect in the discount curve was abolished.

Macroeconomic effects

Pension fund supervision in the Netherlands is mainly aimed at the health of individual pension funds. If the financial situations of the individual funds are uncorrelated, then the macroeconomic effects of restoration policies imposed on pension funds are negligible. However, the crisis has taught us that the financial health of individual funds is highly correlated, while, moreover, it turns out to be highly correlated with the business cycle movements of the economy as a whole. After the previous economic downturn, the dot.com crisis in 2001–2002, some of these effects were already documented with special attention paid to the interaction between increasing the level of contributions and the business cycle (see, for instance, Van Ewijk 2005).

A large share of Dutch pension funds got into severe financial trouble at precisely the same time when the economy went into a severe downturn. The supervisor required individual funds to take measures aimed at restoring financial sustainability, such as further increasing contributions and/or decreasing indexation to

[7] The UFR is also used in Solvency II, the European supervisory framework for insurance companies. For more details, see EIOPA (2014).

price inflation. However, at the aggregate level, these measures had substantial effects on the disposable income of workers through higher contributions and on pensioners through reduced indexation and write offs of entitlements (see Beetsma and Romp 2009). The resulting demand side effects added to the already precarious situation of the Dutch economy. Admittedly, there is no easy solution to the dilemma facing the supervisory authorities. One potential way of limiting adverse macroeconomic effects is to allow funds a longer period to restore, or to require a greater restoration effort when the economy is in an upturn and less effort when it is in a downturn.

Lessons learnt from the crisis

Policymakers have succeeded in implementing a number of much-needed reforms in the Dutch pension system. In particular, the fiscal framework and the financial supervisory framework were adjusted to handle the effects of further increases in life expectancy, while the latter was also redesigned to smooth the impact of the various possible shocks, and particularly financial shocks, on pension entitlements. Moreover, the governance of pension funds was strengthened by the increased involvement of independent experts in pension fund executive and supervisory boards.

However, the crisis has also shown how vulnerable pension funds are to developments in the financial markets, which are driven both by economic factors and by political responses to them. In turn, this has led experts to again ask the question of what is the right balance between funded and pay-as-you-go pensions. More attention has been paid (and should still be paid) to raising the awareness of pension fund participants that their pension is uncertain, but also that greater certainty about future benefits comes at the cost of lower expected benefits. Decreasing investment risk when funding ratios are low is a questionable policy response, because this also implies giving up upward potential. Much of the supervision is targeted at individual funds, which means that the macroeconomic effects of supervision have received only limited attention. Those macroeconomic effects are less important if the pension sector as a whole is small relative to the economy. However, this is not the case for the Netherlands. The restoration requirements should reflect the interests of all the parties involved. A longer restoration period improves the scope for intergenerational risk sharing and minimizes demand- and supply-side macroeconomic effects. Too long restoration periods and high discount rates may reduce the young generations' willingness to participate, and may accordingly threaten the sustainability of the system.

Concluding remarks

This article has discussed how the Dutch funded pension pillar was affected by the recent economic and financial crisis. Dutch pension funds managed to independently survive the crisis, but their financial position was severely affected, stimulating reforms aimed at dealing with the ongoing increase in life expectancy and with an adjustment in the way shocks are absorbed in the system. Finally, the crisis has exposed several aspects of pension fund supervision that could be improved.

References

Beetsma, R. and W.E. Romp (2009), „Herstelplannen, bestedingseffecten en continuïteit", *Economisch Statistische Berichten* 94 (4558), 230–3.

CBS (2012), *Witte vlek op pensioengebied 2010,* Centraal Bureau voor de Statistiek.

CBS (2015), StatLine, Centraal Bureau voor de Statistiek, http://www.cbs.nl/nl-NL/menu/home/default.htm (accessed 28 April 2015).

DNB (2015), Statistieken De Nederlandsche Bank, www.statistics.dnb.nl (accessed 24 April 2015).

EIOPA (2014), "Consultation Paper on a Technical Document Regarding the Risk Free Interest Rate Term Structure", *EIOPA Consultation Paper* 14/042.

Ewijk, C. van (2005), "Reform of Occupational Pensions in the Netherlands", *De Economist* 153 (3), 331–47.

Frijns, J., J. Nijssen and L. Scholtens (2010), *Pensioen: "Onzekere zekerheid", Een analyse van het beleggingsbeleid en het risicobeheer van Nederlandse pensioenfondsen*, Rapport Commissie Beleggingsbeleid en Risicobeheer, Rijksoverheid.

Goudswaard, K., R. Beetsma, Th. Nijman and P. Schnabel (2010), *Een sterke tweede pijler: naar een toekomstbestendig stelsel van aanvullende pensioenen*, Rapport Commissie Toekomstbestendigheid Aanvullende Pensioenen, Rijksoverheid.

Rijksoverheid (2015), Algemene Ouderdomswet (AOW), www.rijksoverheid.nl/onderwerpen/algemene-ouderdomswet-aow (accessed 24 April 2015).